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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,667	02/08/2002	Kathy K. Wang	OSTEONICS 3.0-380	4016

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EXAMINER

SHAFFER, RICHARD R

ART UNIT PAPER NUMBER

3733

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/071,667	Applicant(s) WANG ET AL.	
	Examiner Richard R. Shaffer	Art Unit 3733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,8-18,79,82-98 and 101-103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,8-18,79,82-99 and 101-103 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The indicated allowability of claims 11-13, 18, 79, 82-98, and 101-103 is withdrawn in view of the reference(s) to Pinkhasov (US Patent 5,011,638) and Kaplan (US Patent 5,282,861). Rejections based on the newly cited reference(s) follow.

Drawings

The drawings are objected to because of minor informalities. Some figures are hand drawn with hand written reference characters. Other figures, specifically 15C-18B have solid black shading, which does not clearly depict the invention. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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It is also brought to applicant's attention that the photographs applicant stated were filed March 4th, 2003 could not be located. It is possible the office has lost or misplaced them. Additional copy of the photographs is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 8-10, 14, 15, 102, and 103 are rejected under 35 U.S.C. 102(b) as being anticipated by Pinkhasov (US Patent 5,011,638).

Pinkhasov discloses a porous (up to 95%, Column 7, Line 19) metal network (between steps 13 and 14 in **Figure 1**) having an open cell structure (Column 2, Lines 4-18) with the cells formed by a continuous metal skeleton; the cell openings falling at least within the range of 100 microns to 1000 microns due to 10-100 pores per linear inch being disclosed causing an average size of a pore to be 250 microns; a layer of metal particles having a size of 20 microns (Column 4, Lines 1-2) added to the metal skeleton (step 14); the metal particles being vacuum (Column 5, Lines 11-15) sintered to the metal skeleton (step 15); the cell openings will inherently be varied is thicker coatings (Column 5, Line 10) are used; the cell openings would also inherently vary depending upon which size of metal particle was utilized (Column 4, Lines 1-2); the webs of the metal skeleton would also inherently be hollow due to the pyrolysis step

(13) which would also create openings in the walls of the webs due to the release of carbon dioxide; and the thickness of the scaffold varying between 1mm to 30mm (Column 4, Lines 18-20).

In regard to claim 15, since the particles are sintered, they will form larger particles, and thus would have some within the range of 40 and 80 microns. It is further noted that because spraying is line-of-sight, one side of the web will inherently have more added metal particles than the other side. In **Figure 4**, it is also shown that two metal particle layers (44 and 47) are added to a metal foam (42).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-13, 16-18, 79, 82-98, and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pinkhasov in view of Kaplan (US Patent 5,282,861).

Pinkhasov discloses all of the claimed limitations except for using a biocompatible metal and in combination with a metallic implant. Kaplan teaches (Column 3, Lines 19-31) the use of tantalum, niobium, hafnium, and tungsten for creating an open cell structure via a closely related process (Kaplan actually states that the chemical vapor deposition method is superior to that of sintering). Kaplan also teaches (Column 2, Lines 53-62) that titanium, stainless steel, and vitallium are also well known in the art of orthopedic implants. Kaplan further teaches throughout the

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patent that porous coatings to orthopedic implants are desirable in order to increase fixation of the porous coating to bone and specifically discusses a covering metal core (Column 9, Lines 48-60) with the porous coating. This metal core can be inferred to being a non-reactive load bearing implant that was alluded to in Column 2, Lines 53-63 or generally as a way of strengthening the porous coating. It would have been readily obvious to one having ordinary skill in the art at the time the invention was made to use the method of manufacture disclosed by Pinkhasov to create a biocompatible implant made of tantalum, niobium, hafnium, tungsten, and titanium as taught by Kaplan as an alternative to the chemical vapor deposition method.

Response to Arguments

Applicant's arguments with respect to claims 1-4, 6, 8-18, 79, 82-98, and 101-103 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard R. Shaffer whose telephone number is 571-272-8683. The examiner can normally be reached on Monday-Friday during (7am-5pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eduardo Robert can be reached on 571-272-4719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Shaffer

Richard Shaffer
March 13th, 2006


EDUARDO C. ROBERT
SUPERVISORY PATENT EXAMINER